

**AN APPARATUS AND METHOD FOR MOVEMENT MEASUREMENT AND
POSITION TRACKING OF LONG, NON-TEXTURED METAL OBJECTS AT
AN ELEVATED TEMPERATURE**

ABSTRACT

5 A motion detection system, and more particularly, a non-contact, movement-
measurement and position-tracking device, and a method of applying the device on
long, non-textured or regularly textured metal objects at an elevated temperature are
invented. The invention takes advantage of the oxidation marks, also known as scale,
on the surface of the metal object to track the motion. The oxidation marks are
10 typically random and irregular, providing a means for pattern tracking using imaging
technologies.